

IN THE CLAIMS:

Please amend the claims as set forth below. This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (Currently Amended): A method of cutting a semiconductor substrate, the method comprising the steps of:

irradiating a semiconductor substrate having a sheet bonded thereto by way of a die-bonding resin layer with laser light, having a wavelength that enables the laser light to transmit through the semiconductor substrate, while locating a light-converging point within the semiconductor substrate, so as to form a modified region caused by photon absorption only within the semiconductor substrate, ~~without forming any gap in a line along which the semiconductor substrate is intended to be divided, and causing the modified region to form~~ forming a part which is intended to be cut; and

~~expanding the sheet after the step of forming the part which is intended to be cut, to divide the die-bonding resin layer together with the semiconductor substrate to cut and separate the semiconductor substrate with the die-bonding resin layer attached to bonded thereto into adjacent separated portions of the semiconductor substrate each having at least a portion of the die-bonding resin layer bonded thereto, so as to form a gap with a predetermined width between the adjacent divided parts separated portions of the semiconductor substrate with the die-bonding resin layer attached to the divided parts of the semiconductor substrate, so as to cut cut and separate at least the semiconductor substrate and die-bonding resin layer along the part which is intended to be cut.~~

Claim 2 (Currently Amended): A method of cutting a semiconductor substrate, the method comprising the steps of:

irradiating a semiconductor substrate having a sheet bonded thereto by way of a die-bonding resin layer with laser light, having a wavelength that enables the laser light to transmit through the semiconductor substrate, while locating a light-converging point within the semiconductor substrate under a condition with a peak power density of at least 1×10^8 (W/cm²) at the light-converging point and a pulse width of 1 μ s or less, so as to form a modified region including a molten processed region only within the semiconductor substrate, ~~without forming any gap in a line along which the semiconductor substrate is intended to be divided, and causing the modified region including the molten processed region to form~~ forming a part which is intended to be cut; and

expanding the sheet after ~~the step of forming the part which is intended to be cut, to divide the die-bonding resin layer together with the semiconductor substrate to~~ cut and separate the semiconductor substrate with the die-bonding resin layer ~~attached to~~ bonded thereto into adjacent separated portions of the semiconductor substrate each having at least a portion of the die-bonding resin layer bonded thereto, so as to form a gap with a predetermined width between the adjacent divided parts separated portions of the semiconductor substrate ~~with the die-bonding resin layer attached to the divided parts of the semiconductor substrate, and~~ so as to cut cut and separate at least the semiconductor substrate and die-bonding resin layer along the part which is intended to be cut.

Claim 3 (Currently Amended): A method of cutting a semiconductor substrate, the method comprising the steps of:

irradiating a semiconductor substrate having a sheet bonded thereto by way of a die-bonding resin layer with laser light, having a wavelength that enables the laser light to transmit through the semiconductor substrate, while locating a light-converging point within the semiconductor substrate, so as to form a modified region only within the semiconductor substrate, ~~without forming any gap in a line along which the semiconductor substrate is intended to be divided, and causing the modified region to form~~ forming a part which is intended to be cut; and

expanding the sheet after ~~the step of forming the part which is intended to be cut, to divide the die-bonding resin layer together with the semiconductor substrate to cut and separate~~ the semiconductor substrate with the die-bonding resin layer ~~attached to~~ bonded thereto into adjacent separated portions of the semiconductor substrate each having at least a portion of the die-bonding resin layer bonded thereto, so as to form a gap with a predetermined width between the adjacent ~~divided parts~~ separated portions of the semiconductor substrate ~~with the die-bonding resin layer attached to the divided parts of the semiconductor substrate, so as to cut~~ cut and separate at least the semiconductor substrate and die-bonding resin layer along the part which is intended to be cut.

Claim 4 (Currently Amended): A method of cutting a semiconductor substrate, the method comprising the steps of:

irradiating a semiconductor substrate having a sheet bonded thereto with laser light, having a wavelength that enables the laser light to transmit through the semiconductor substrate, such that grooves are not formed by irradiation of the laser light on a laser incident surface of the semiconductor substrate and no molten region is formed on the laser incident surface of the

semiconductor substrate, while locating a light-converging point within the semiconductor substrate, so as to form a modified region only within the semiconductor substrate, such that the modified region is a molten processed region and in thickness direction of the semiconductor substrate, there is molten processed region and non-molten processed region in the semiconductor substrate, ~~and causing the modified region to form~~ forming a part which is intended to be cut;

~~applying stress to the semiconductor substrate so that the semiconductor substrate is completely divided without forming any gap between divided parts of the semiconductor substrate; and~~

~~expanding the sheet after the step of forming the part which is intended to be cut, so that the die bonding layer is divided under the condition a divided part of the die bonding resin layer is attached to the corresponding divided part of the semiconductor substrate by expansion of the sheet and as a result, a gap is formed between the divided parts of the semiconductor substrate, so as to cut and separate at least the semiconductor substrate along the part which is intended to be cut.~~

Claim 5 (Previously Presented): A method of cutting a semiconductor substrate according to claim 3, wherein the modified region is a molten processed region.

Claim 6 (Canceled).

Claim 7 (Previously Presented): A method of cutting a semiconductor substrate according to claim 1, wherein a fracture is caused to reach a front face of the semiconductor

substrate on the laser light entrance side from the part which is intended to be cut acting as a start point.

Claim 8 (Previously Presented): A method of cutting a semiconductor substrate according to claim 2, wherein a fracture is caused to reach a front face of the semiconductor substrate on the laser light entrance side from the part which is intended to be cut acting as a start point.

Claim 9 (Previously Presented): A method of cutting a semiconductor substrate according to claim 3, wherein a fracture is caused to reach a front face of the semiconductor substrate on the laser light entrance side from the part which is intended to be cut acting as a start point.

Claim 10 (Previously Presented): A method of cutting a semiconductor substrate according to claim 4, wherein a fracture is caused to reach a front face of the semiconductor substrate on the laser light entrance side from the part which is intended to be cut acting as a start point.

Claim 11 (Previously Presented): A method of cutting a semiconductor substrate according to claim 1, wherein a fracture is caused to reach a rear face of the semiconductor substrate on the side opposite from the laser light entrance side from the part which is intended to be cut acting as a start point.

Claim 12 (Previously Presented): A method of cutting a semiconductor substrate according to claim 2, wherein a fracture is caused to reach a rear face of the semiconductor substrate on the side opposite from the laser light entrance side from the part which is intended to be cut acting as a start point.

Claim 13 (Previously Presented): A method of cutting a semiconductor substrate according to claim 3, wherein a fracture is caused to reach a rear face of the semiconductor substrate on the side opposite from the laser light entrance side from the part which is intended to be cut acting as a start point.

Claim 14 (Previously Presented): A method of cutting a semiconductor substrate according to claim 4, wherein a fracture is caused to reach a rear face of the semiconductor substrate on the side opposite from the laser light entrance side from the part which is intended to be cut acting as a start point.

Claim 15 (Previously Presented): A method of cutting a semiconductor substrate according to claim 1, wherein a fracture is caused to reach a front face of the semiconductor substrate on the laser light entrance side and a rear face on the side opposite therefrom from the part which is intended to be cut acting as a start point.

Claim 16 (Previously Presented): A method of cutting a semiconductor substrate according to claim 2, wherein a fracture is caused to reach a front face of the semiconductor

substrate on the laser light entrance side and a rear face on the side opposite therefrom from the part which is intended to be cut acting as a start point.

Claim 17 (Previously Presented): A method of cutting a semiconductor substrate according to claim 3, wherein a fracture is caused to reach a front face of the semiconductor substrate on the laser light entrance side and a rear face on the side opposite therefrom from the part which is intended to be cut acting as a start point.

Claim 18 (Previously Presented): A method of cutting a semiconductor substrate according to claim 4, wherein a fracture is caused to reach a front face of the semiconductor substrate on the laser light entrance side and a rear face on the opposite therefrom from the part which is intended to be cut acting as a start point.

Claim 19 (Currently Amended): A method of cutting a semiconductor substrate, the method comprising the steps of:

irradiating a semiconductor substrate having a sheet bonded thereto by way of a die-bonding resin layer with laser light, having a wavelength that enables the laser light to transmit through the semiconductor substrate, while locating a light-converging point within the semiconductor substrate, so as to form a modified region caused by photon absorption only within the semiconductor substrate, ~~and causing the modified region to form~~ forming a part which is intended to be cut;

generating a stress in the semiconductor substrate along the part which is intended to be cut after ~~the step of forming the part which is intended to be cut, so that the semiconductor is~~

~~completely divided without forming any gap between divided parts of the semiconductor~~

~~substrate so as to cut the semiconductor substrate along the part which is intended to be cut; and~~

~~expanding the sheet after the step of cutting the semiconductor substrate, so that the die-bonding resin layer is divided under the condition a divided part of the die-bonding resin layer is attached to the corresponding divided part of the semiconductor substrate by expansion of the sheet and as a result, a gap is formed between the divided parts of the semiconductor substrate and divided parts of the die-bonding resin layer by expansion of the sheet, so as to cut separate at least the die-bonding resin layer semiconductor substrate along a cut section of the semiconductor substrate the part which is intended to be cut.~~

Claim 20 (Currently Amended): A method of cutting a semiconductor substrate, the method comprising the steps of:

irradiating a semiconductor substrate having a sheet bonded thereto by way of a die-bonding resin layer with laser light, having a wavelength that enables the laser light to transmit through the semiconductor substrate, while locating a light-converging point within the semiconductor substrate under a condition with a peak power density of at least 1×10^8 (W/cm²) at the light-converging point and a pulse width of 1 μ s or less, so as to form a modified region caused by multiphoton absorption only within the semiconductor substrate, ~~and causing the modified region to form~~ forming a part which is intended to be cut;

generating a stress in the semiconductor substrate along the part which is intended to be cut after ~~the step of forming the part which is intended to be cut, so that the semiconductor is completely divided without forming any gap between divided parts of the semiconductor~~ substrate so as to cut the semiconductor substrate along the part which is intended to be cut; and

expanding the sheet after ~~the step of cutting the semiconductor substrate, so that the die-~~
~~bonding resin layer is divided under the condition a divided part of the die-bonding resin layer is~~
~~attached to the corresponding divided part of the semiconductor substrate by expansion of the~~
~~sheet and as a result, a gap is formed between the divided parts of the semiconductor substrate~~
~~and divided parts of the die-bonding resin layer by expansion of the sheet, so as to cut separate at~~
~~least the die-bonding resin layer semiconductor substrate along a cut section of the~~
~~semiconductor substrate the part which is intended to be cut.~~

Claim 21 (Currently Amended): A method of cutting a semiconductor substrate, the method comprising the steps of:

irradiating a semiconductor substrate having a sheet bonded thereto by way of a die-bonding resin layer with laser light, having a wavelength that enables the laser light to transmit through the semiconductor substrate, while locating a light-converging point within the semiconductor substrate, so as to form a modified region only within the semiconductor substrate, ~~and causing the modified region to form forming a part which is intended to be cut;~~

generating a stress in the semiconductor substrate along the part which is intended to be cut after ~~the step of forming the part which is intended to be cut, so that the semiconductor is~~
~~completely divided without forming any gap between divided parts of the semiconductor~~
~~substrate so as to cut the semiconductor substrate along the part which is intended to be cut; and~~

expanding the sheet after ~~the step of cutting the semiconductor substrate, so that the die-~~
~~bonding resin layer is divided under the condition a divided part of the die-bonding resin layer is~~
~~attached to the corresponding divided part of the semiconductor substrate by expansion of the~~
~~sheet and as a result, a gap is formed between the divided parts of the semiconductor substrate~~

~~and divided parts of the die bonding resin layer by expansion of the sheet, so as to cut separate at least the die bonding resin layer semiconductor substrate along a cut section of the semiconductor substrate~~ the part which is intended to be cut.

Claim 22 (Previously Presented): A method of cutting a semiconductor substrate according to claim 21, wherein the modified region is a molten processed region.

Claim 23 (Withdrawn): A method of cutting a semiconductor substrate having a front face formed with a functional device along a line to cut, the method comprising the steps of:

irradiating the semiconductor substrate with laser light while using a rear face of the semiconductor substrate as a laser light entrance surface and locating a light-converging point within the semiconductor substrate, so as to form a modified region, and causing the modified region to form a cutting start region within the semiconductor substrate inside of the laser light entrance surface by a predetermined distance along the line to cut;

attaching an expandable holding member to the rear face of the semiconductor substrate by way of a die-bonding resin layer after forming the cutting start region; and

expanding the holding member after attaching the holding member, so as to cut the semiconductor substrate and die-bonding resin layer along the line to cut.

Claim 24 (Withdrawn): A method of cutting a semiconductor substrate according to claim 23, further comprising the step of grinding the rear face of the semiconductor substrate such that the semiconductor substrate attains a predetermined thickness before forming the cutting start region.

Claim 25 (Withdrawn): A method of cutting a semiconductor substrate according to claim 23, wherein the modified region includes a molten processed region.

Claim 26 (Withdrawn): A method of cutting a semiconductor substrate according to claim 23, wherein a fracture is caused to reach the front face of the semiconductor substrate from the cutting start region acting as a start point when forming the cutting start region.

Claim 27 (Withdrawn): A method of cutting a semiconductor substrate according to claim 23, wherein a fracture is caused to reach the rear face of the semiconductor substrate from the cutting start region acting as a start point when forming the cutting start region.

Claim 28 (Withdrawn): A method of cutting a semiconductor substrate according to claim 23, wherein a fracture is caused to reach the front and rear faces of the semiconductor substrate from the cutting start region acting as a start point when forming the cutting start region.

Claim 29 (Withdrawn): A method of cutting a semiconductor substrate according to claim 23, wherein the modified region includes at least a molten processed region positioned on the opposite side of the molten processed region from the laser light incident face.

Claim 30 (Withdrawn): A method of cutting a semiconductor substrate according to claim 24, wherein the modified region includes at least a molten processed region positioned on the opposite side of the molten processed region from the laser light incident face.

Claim 31 (Withdrawn): A method of cutting a semiconductor substrate according to claim 25, wherein the modified region includes at least a molten processed region positioned on the opposite side of the molten processed region from the laser light incident face.

Claim 32 (Withdrawn): A method of cutting a semiconductor substrate having a front face formed with a plurality of functional devices to divide into every said functional devices, the method comprising the steps of:

attaching a sheet to the rear face of the semiconductor substrate by way of a die-bonding resin layer;

after the attachment of the sheet to the rear face of the semiconductor substrate, forming modified regions within the substrate in matrix so that the modified regions are located just under spaces between the functional devices adjacent to each other by irradiating the semiconductor substrate with laser light while using a front face of the semiconductor substrate as a laser light entrance surface and locating a light-covering point within the semiconductor substrate, to divide the semiconductor substrate into semiconductor chips, each having the functional device thereon;

after division of the semiconductor substrate, cutting the die-bonding resin layer along a cutting surface of the semiconductor chip by expanding the sheet; and

after cutting of the die-bonding resin layer, picking up the semiconductor chip from the sheet while the picked up semiconductor chip has the die-bonding resin layer on a rear surface of the picked up semiconductor chip.

Claim 33 (Currently Amended): A method of manufacturing a semiconductor device formed using a method of cutting a semiconductor substrate, the manufacturing method comprising:

irradiating a semiconductor substrate, having a sheet bonded thereto by way of a die-bonding resin layer and having a surface formed with at least one semiconductor device, with laser light, having a wavelength that enables the laser light to transmit through the semiconductor substrate, while locating a light-converging point within the semiconductor substrate, so as to form a modified region caused by photon absorption only within the semiconductor substrate ~~without forming any gap in a line along which the semiconductor substrate is intended to be divided, and causing the modified region to form~~ forming a part which is intended to be cut; and

expanding the sheet after ~~the step of forming the part which is intended to be cut, to divide the die-bonding resin layer together with the semiconductor substrate to cut and separate~~ the semiconductor substrate with the die-bonding resin layer ~~attached to~~ bonded thereto into adjacent separated portions of the semiconductor substrate each having at least a portion of the die-bonding resin layer bonded thereto, so as to form a gap with a predetermined width between the adjacent divided parts separated portions of the semiconductor substrate, with the die-bonding resin layer attached to the divided parts, so as to cut and separate at least the semiconductor substrate and die-bonding resin layer along the part which is intended to be cut, with such cutting separating thereby providing at least one manufactured semiconductor device.

Claim 34 (Currently Amended): A method of manufacturing a semiconductor device formed using a method of cutting a semiconductor substrate, the manufacturing method comprising:

irradiating a semiconductor substrate, having a sheet bonded thereto by way of a die-bonding resin layer and having a surface formed with at least one semiconductor device, with laser light, having a wavelength that enables the laser light to transmit through the semiconductor substrate, while locating a light-converging point within the semiconductor substrate under a condition with a peak power density of at least 1×10^8 (W/cm²) at the light-converging point and a pulse width of 1 μ s or less, so as to form a modified region including a molten processed region only within the semiconductor substrate, ~~without forming any gap in a line along which the semiconductor substrate is intended to be divided, and causing the modified region including the molten processed region to form~~ forming a part which is intended to be cut; and

expanding the sheet after ~~the step of forming the part which is intended to be cut, to divide the die-bonding resin layer together with the semiconductor substrate to cut and separate~~ the semiconductor substrate with the die-bonding resin layer ~~attached to~~ bonded thereto into adjacent separated portions of the semiconductor substrate each having at least a portion of the die-bonding resin layer bonded thereto, so as to form a gap with a predetermined width between the adjacent divided parts separated portions of the semiconductor substrate ~~with the die-bonding resin layer attached to the divided parts of the semiconductor substrate, so as to cut~~ cut and separate at least the semiconductor substrate and die-bonding resin layer along the part which is intended to be cut, with such ~~cutting~~ separating thereby providing at least one manufactured semiconductor device.

Claim 35 (Currently Amended): A method of manufacturing a semiconductor device formed using a method of cutting a semiconductor substrate, the manufacturing method comprising:

irradiating a semiconductor substrate, having a sheet bonded thereto by way of a die-bonding resin layer and having a surface formed with at least one semiconductor device, with laser light, having a wavelength that enables the laser light to transmit through the semiconductor substrate, while locating a light-converging point within the semiconductor substrate, so as to form a modified region only within the semiconductor substrate, ~~without forming any gap in a line along which the semiconductor substrate is intended to be divided, and causing the modified region to form~~ forming a part which is intended to be cut; and

expanding the sheet after ~~the step of forming the part which is intended to be cut, to divide the die-bonding resin layer together with the semiconductor substrate to cut and separate~~ the semiconductor substrate with the die-bonding resin layer ~~attached to~~ bonded thereto into adjacent separated portions of the semiconductor substrate each having at least a portion of the die-bonding resin layer bonded thereto, so as to form a gap with a predetermined width between the adjacent divided parts separated portions of the semiconductor substrate with the die-bonding resin layer ~~attached to the divided parts of the semiconductor substrate, so as to cut~~ cut and separate at least the semiconductor substrate and die-bonding resin layer along the part which is intended to be cut, with such cutting separating thereby providing at least one manufactured semiconductor device.

Claim 36 (Currently Amended): A method of manufacturing a semiconductor device formed using a method of cutting a semiconductor substrate, the manufacturing method comprising:

irradiating a semiconductor substrate, having a sheet bonded thereto and having a surface formed with at least one semiconductor device, with laser light, having a wavelength that enables the laser light to transmit through the semiconductor substrate, such that grooves are not formed by irradiation of the laser light on a laser incident surface of the semiconductor substrate and no molten region is formed on the laser incident surface of the semiconductor substrate, while locating a light-converging point within the semiconductor substrate, so as to form a modified region only within the semiconductor substrate, such that the modified region is a molten processed region and in thickness direction of the semiconductor substrate, there is molten processed region and non-molten processed region in the semiconductor substrate, ~~and causing the modified region to form~~ forming a part which is intended to be cut;

~~applying stress to the semiconductor substrate so that the semiconductor substrate is completely divided without forming any gap between divided parts of the semiconductor substrate; and~~

expanding the sheet after the step of forming the part which is intended to be cut, so that the die-bonding layer is divided under the condition a divided part of the die-bonding resin layer is attached to the corresponding divided part of the semiconductor substrate by expansion of the sheet and as a result, a gap is formed between the divided parts of the semiconductor substrate, so as to cut cut and separate at least the semiconductor substrate along the part which is intended to be cut, with such cutting separating thereby providing at least one manufactured semiconductor device.

Claim 37 (Currently Amended): A method of manufacturing a semiconductor device formed using a method of cutting a semiconductor device, the manufacturing method comprising:

irradiating a semiconductor substrate, having a sheet bonded thereto by way of a die-bonding resin layer and having a surface formed with at least one semiconductor device, with laser light, having a wavelength that enables the laser light to transmit through the semiconductor substrate, while locating a light-converging point within the semiconductor substrate, so as to form a modified region caused by photon absorption only within the semiconductor substrate, ~~and causing the modified region to form~~ forming a part which is intended to be cut;

generating a stress in the semiconductor substrate along the part which is intended to be cut after ~~the step of forming the part which is intended to be cut, so that the semiconductor is completely divided without forming any gap between divided parts of the semiconductor substrate~~ so as to cut the semiconductor substrate along the part which is intended to be cut; and

expanding the sheet after ~~the step of cutting the semiconductor substrate, so that the die-bonding resin layer is divided under the condition a divided part of the die-bonding resin layer is attached to the corresponding divided part of the semiconductor substrate by expansion of the sheet and as a result, a gap is formed between the divided parts of the semiconductor substrate and divided parts of the die-bonding resin layer by expansion of the sheet,~~ so as to separate at least cut the die-bonding resin layer along a cut section of the semiconductor substrate along the part which is intended to be cut, with such cutting separating thereby providing at least one manufactured semiconductor device.

Claim 38 (Currently Amended): A method of manufacturing a semiconductor device formed using a method of cutting a semiconductor substrate, the manufacturing method comprising:

irradiating a semiconductor substrate, having a sheet bonded thereto by way of a die-bonding resin layer and having a surface formed with at least one semiconductor device, with laser light, having a wavelength that enables the laser light to transmit through the semiconductor substrate, while locating a light-converging point within the semiconductor substrate under a condition with a peak power density of at least 1×10^8 (W/cm²) at the light-converging point and a pulse width of 1 μ s or less, so as to form a modified region caused by multiphoton absorption only within the semiconductor substrate, ~~and causing the modified region to form~~ forming a part which is intended to be cut;

generating a stress in the semiconductor substrate along the part which is intended to be cut after ~~the step of forming the part which is intended to be cut, so that the semiconductor is completely divided without forming any gap between divided parts of the semiconductor substrate~~ so as to cut the semiconductor substrate along the part which is intended to be cut; and

expanding the sheet after ~~the step of cutting the semiconductor substrate, so that the die-bonding resin layer is divided under the condition a divided part of the die-bonding resin layer is attached to the corresponding divided part of the semiconductor substrate by expansion of the sheet and as a result, a gap is formed between the divided parts of the semiconductor substrate and divided parts of the die-bonding resin layer by expansion of the sheet, so as to cut the die-bonding resin layer along a cut section of~~ separate at least the semiconductor substrate along the

part which is intended to be cut, with such ~~cutting~~ separating thereby providing at least one manufactured semiconductor device.

Claim 39 (Previously Presented): A method of manufacturing a semiconductor device formed using a method of cutting a semiconductor substrate, the manufacturing method comprising:

irradiating a semiconductor substrate, having a sheet bonded thereto by way of a die-bonding resin layer and having a surface formed with at least one semiconductor device, with laser light, having a wavelength that enables the laser light to transmit through the semiconductor substrate, while locating a light-converging point within the semiconductor substrate, so as to form a modified region only within the semiconductor substrate, ~~and causing the modified region forming to form~~ a part which is intended to be cut;

generating a stress in the semiconductor substrate along the part which is intended to be cut after ~~the step of forming the part which is intended to be cut, so that the semiconductor is completely divided without forming any gap between divided parts of the semiconductor substrate~~ so as to cut the semiconductor substrate along the part which is intended to be cut; and

expanding the sheet after ~~the step of cutting the semiconductor substrate, so that the die-bonding resin layer is divided under the condition a divided part of the die-bonding resin layer is attached to the corresponding divided part of the semiconductor substrate by expansion of the sheet and as a result, a gap is formed between the divided parts of the semiconductor substrate and divided parts of the die-bonding resin layer by expansion of the sheet, so as to cut the die-bonding resin layer along a cut section of~~ separate at least the semiconductor substrate along the

part which is intended to be cut, with such ~~cutting~~ separating thereby providing at least one manufactured semiconductor device.

Claim 40 (Withdrawn): A method of manufacturing a semiconductor device formed using a method of cutting a semiconductor substrate having a front face formed with a functional device along a line to cut, the manufacturing method comprising:

irradiating the semiconductor substrate with laser light while using a rear face of the semiconductor substrate as a laser light entrance surface and locating a light-converging point within the semiconductor substrate, so as to form a modified region, and causing the modified region to form a cutting start region within the semiconductor substrate inside of the laser light entrance surface by a predetermined distance along the line to cut;

attaching an expandable holding member to the rear face of the semiconductor substrate by way of a die-bonding resin layer after forming the cutting start region; and

expanding the holding member after attaching the holding member, so as to cut the semiconductor substrate and die-bonding resin layer along the line to cut, with such cutting thereby providing at least one manufactured semiconductor device.

Claim 41 (Withdrawn): A method of manufacturing a semiconductor device formed using a method of cutting a semiconductor substrate having a front face formed with a plurality of functional devices to divide into each of said functional devices, the manufacturing method comprising:

attaching a sheet to the rear face of the semiconductor substrate by way of a die-bonding resin layer;

after the attachment of the sheet to the rear face of the semiconductor substrate, forming modified regions within the substrate in matrix so that the modified regions are located just under spaces between the functional devices adjacent to each other by irradiating the semiconductor substrate with laser light while using a front face of the semiconductor substrate as a laser light entrance surface and locating a light-converging point within the semiconductor substrate, to divide the semiconductor substrate into semiconductor chips, each having the functional device thereon;

after division of the semiconductor substrate, cutting the die-bonding resin layer along a cutting surface of the semiconductor chip by expanding the sheet; and

after cutting of the die-bonding resin layer, picking up the semiconductor chip from the sheet while the picked up semiconductor chip has the die-bonding resin layer on a rear surface of the picked up semiconductor chip, such picked up semiconductor chip comprising a manufactured semiconductor device.

Claim 42 (Previously Presented): A method of cutting a semiconductor substrate according to claim 1, wherein the irradiating step is performed so as to form the modified region by multiphoton absorption within the semiconductor substrate.

Claim 43 (Previously Presented): A method of cutting a semiconductor substrate according to claim 19, wherein the irradiating step is performed so as to form the modified region by multiphoton absorption within the semiconductor substrate.

Claim 44 (Previously Presented): A method of manufacturing a semiconductor device according to claim 33, wherein the irradiating step is performed so as to form the modified region by multiphoton absorption within the semiconductor substrate.

Claim 45 (Previously Presented): A method of manufacturing a semiconductor device according to claim 37, wherein the irradiating step is performed so as to form the modified region by multiphoton absorption within the semiconductor substrate.

Claim 46 (New): A method of cutting a semiconductor substrate according to claim 1, wherein the expanding separates the die bonding resin layer along with the semiconductor substrate.

Claim 47 (New): A method of cutting a semiconductor substrate according to claim 2, wherein the expanding separates the die bonding resin layer along with the semiconductor substrate.

Claim 48 (New): A method of cutting a semiconductor substrate according to claim 3, wherein the expanding separates the die bonding resin layer along with the semiconductor substrate.

Claim 49 (New): A method of cutting a semiconductor substrate according to claim 4, wherein the expanding separates a die bonding resin layer, which bonds the sheet to the semiconductor substrate, along with the semiconductor substrate.

Claim 50 (New): A method of cutting a semiconductor substrate according to claim 19, wherein the expanding separates the die bonding resin layer along with the semiconductor substrate.

Claim 51 (New): A method of cutting a semiconductor substrate according to claim 20, wherein the expanding separates the die bonding resin layer along with the semiconductor substrate.

Claim 52 (New): A method of cutting a semiconductor substrate according to claim 21, wherein the expanding separates the die bonding resin layer along with the semiconductor substrate.

Claim 53 (New): A method of manufacturing a semiconductor device according to claim 33, wherein the expanding separates the die bonding resin layer along with the semiconductor substrate.

Claim 54 (New): A method of manufacturing a semiconductor device according to claim 34, wherein the expanding separates the die bonding resin layer along with the semiconductor substrate.

Claim 55 (New): A method of manufacturing a semiconductor device according to claim 35, wherein the expanding separates the die bonding resin layer along with the semiconductor substrate.

Claim 56 (New): A method of manufacturing a semiconductor device according to claim 36, wherein the expanding separates a die bonding resin layer, which bonds the sheet to the semiconductor substrate, along with the semiconductor substrate.

Claim 57 (New): A method of manufacturing a semiconductor device according to claim 37, wherein the expanding separates the die bonding resin layer along with the semiconductor substrate.

Claim 58 (New): A method of manufacturing a semiconductor device according to claim 38, wherein the expanding separates the die bonding resin layer along with the semiconductor substrate.

Claim 59 (New): A method of manufacturing a semiconductor device according to claim 39, wherein the expanding separates the die bonding resin layer along with the semiconductor substrate.